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AUTHOR Prizant, Barry M.
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ABSTRACT

The paper examines theoretical issues regarding the symptomatology of echolalia in the language of visually impaired children. Literature on echolalia is reviewed from a variety of perspectives and clinical work and research with visual impairment and with autism is discussed. Problems of definition are cited, and explanations for occurrence of immediate and delayed echolalia in visually impaired children are offered. Consideration of the role of verbal repetition in language acquisition suggests qualitative differences in language acquisition of echolalic visually impaired children compared to normal children. A discussion of individual differences in language acquisition is followed by an analysis of the possible relationship between visual impairment and echolalia.
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TOWARD AN UNDERSTANDING OF LANGUAGE
SYMPTOMATOLOGY OF VISUALLY-IMPAIRED CHILDREN

Barry M. Prizant, Ph.D
Head, Speech & Language Department,
Emma Pendleton Bradley Hospital,
East Providence, Rhode Island, U.S.A.

In recent years language acquisition and use of language by visually impaired children have become topics of increasing interest. This has occurred, to some extent, because of the language delays and so-called deviant language characteristics often noted in the language development of these children. Another impetus for this burgeoning interest is more theoretical in nature; the study of linguistic abilities and disabilities of visually impaired children has the potential of providing information regarding the possible contribution and importance of visual input to the development of linguistic and communicative knowledge by examining the consequences of a lack of such input.

The role of visual input has been emphasized as a major factor in the development of sighted children's early semantic knowledge, in that the relationships between meanings and linguistic forms are thought to be discovered by hearing such forms in the context of what they are referring to (eg., objects, actions, other persons). Much literature on normal language development tends to assume that vision is the primary modality by which children develop understandings of content (meaning) - form (language structure) relationships through the establishment of joint reference with others, although physical action upon objects as well as auditory, tactile, olfactory, and gustatory information also are acknowledged to play an important role. Recent literature, however, challenges the notion that visually impaired children are significantly deficient in semantic development as would be predicted by this position (Landau, 1983). Rather, particular linguistic forms may be assigned specific meanings by visually impaired children that are somewhat idiosyncratic to the child's experience, especially in early stages of language development. Some authors have referred to forms with idiosyncratic meanings as empty or meaningless and have applied the term "verbalism" to the use of so-called meaningless language [see Ayalá (1983) for a review of this issue]. Landau noted that semantic distinctions expressed through linguistic forms need to be understood in reference to the visually impaired child's experience with language in the

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context of objects, events, and other people in his or her environment. She added that if such experiences are different due to the limited contribution of visual input, the early development of word meanings and language use that varies from conventional meanings and use would be a natural consequence.

In addition to differences in semantic development, another theme that has received much attention is the frequent occurrence of verbal repetition or echolalia in the language of young visually impaired children. It is difficult to say just how prevalent such verbal repetition is; the literature (reviewed by this author) does not provide any estimate. However, clinical experience as well as many published and unpublished reports (Elstner, 1983; Fay, 1973; Prizant and Booziotis, in preparation; Rogow, 1972; Wills, 1979) indicate that echolalic behavior is a common phenomenon. Burlingham (1965) stated that "they use many words which are meaningless to them, in imitation of the sighted" (p. 202). Such repetition has been noted to occur immediately following another's utterance (immediate echolalia) or at a significantly later time (delayed echolalia).

More rigid forms of echolalic behavior have been associated most frequently with children blinded by RLF. A subgroup of RLF children develop behavioral patterns similar enough to behaviors of autistic children that they have been referred to as autistic-like (Keeler, 1958; Chase, 1972). In addition to problems in social interaction, stereotypic behaviors and developmental delays, echolalia is cited as a common characteristic of RLF children and autistic children. However, as mentioned, echolalia has been observed frequently in other children with visual impairment.

Echolalia has been discussed from a variety of perspectives. Nagera and Colonna (1965) included echolalic behavior as an example of verbalism. They described verbalism as a child's use of words in a parroting fashion without having an understanding of their true and complete meaning. Fay (1973) found similarities in the echolalic behavior of a subgroup of visually impaired children when compared to echolalia of children with autism. Wills (1979) discussed verbal repetition of visually impaired children in reference to its possible contribution to communication and the language learning process. In this paper, the previous work of Fay and Wills will be extended in that echolalic behavior of visually impaired children will be considered from the perspective of similar behavior in other children (eg., normal, autistic) as well as in reference to its possible role in social interaction and language learning. The following discussion will draw from our clinical work and research with children

with visual impairment and with autism, and from literature on repetition in the language of non-handicapped children. Thus, a caveat is in order. The following discussion is presented as a stimulus for research, and as a possible explanation for observed echolalic behaviors in visually impaired children, and, therefore, should be construed as tentative pending further research evidence specific to visually impaired children.

Echolalia - Problems of Definition

Schuler (1979) discussed definitional problems in her review of echolalic behavior in a variety of clinical populations. She stated that:

The term 'echolalia' appears to be used loosely, to refer to some not well specified type of repetition of words and phrases. Distinctions as to degree of repetition and comprehension are usually lacking as well as considerations about the intentionality and context sensitivity of the behavior (p. 411).

Problems of definition reflect the fact that echolalia has been used to describe a continuum of verbal behavior, and that delineation of points along the continuum are, in reality, difficult to make. For example, to what extent must a repetition be faithful and indeed, on which dimensions must a repetition be faithful (eg., words, intonation) for it to qualify as echolalic behavior? This problem is compounded by the fact that most echolalic children will demonstrate some rigid reproductions of others' utterances, yet will also introduce segmental (ie., phonemic, lexical) or suprasegmental (ie., intonational) changes in some utterances. More rigid reproductions are typically thought of as more "echolalic-like" while repeated utterances with greater change may be thought of as less "echolalic-like". The latter have been referred to as "mitigated echolalia," and in most cases, probably reflects a greater degree of cognitive-linguistic processing of the original utterance and/or the repeated utterance. Conversely, more rigid reproductions are thought of as reflecting less processing and greater automaticity in the sense of "parroting behavior." In order to understand the significance of verbal repetition of children who frequently demonstrate such behavior, it is important to consider more automatic and rigid reproductions as well as those produced with some change. As definitional issues will certainly not be resolved here, the discussion will shift to the distinctions in echolalic behavior that can be made with greater certainty.

As mentioned, two general types of echolalia have been delineated based upon the temporal relationship between an utterance and a child's subsequent repetition of the utterance. A repetition following immediately after a model utterance has been referred to as immediate echolalia, and such repetition may be the product of some type of short-term echoic memory process (Fay, 1983). In visually impaired children as well as in autistic children (the two groups most frequently associated with echolalic behavior) immediate echolalia has been shown to vary along with dimensions of degree of comprehension of the echoed utterance as well as the degree of communicative intent underlying its production (Prizant and Booziotis, in preparation; Prizant and Duchan, 1981).

The term delayed echolalia refers to utterances that are memorized and are repeated at a significantly later time, and therefore may involve some type of long-term echoic memory processing. Delayed echolalia may involve repetition of multi-word utterances that are quite sophisticated in linguistic form and may reflect a level of apparent linguistic complexity far beyond that of a child's actual capacity to construct or formulate novel utterances. The production of delayed echolalia may also be associated with particular routines based on specific activities, specific interactions with people, or specific stimuli in the environment. Other terms which have been used to describe delayed echolalia include situational phrases (Will, 1979), prefabricated routines (Krashen and Scarcella, 1978), gestalt language forms (Peters, 1983; Prizant, 1983b) and memorized language chunks (Baltaxe and Simmons, 1977). As with immediate echolalia, delayed echolalia has been shown to vary along the dimensions of comprehension of the repeated utterances as well as communicative intent underlying their production for both visually impaired and autistic children (Prizant and Booziotis, in preparation; Prizant and Rydell, 1984). Furthermore, recent literature suggests that the use of memorized phrases may be far more prevalent in the language of young non-handicapped children than previously suspected (Peters, 1983).

Why Does Echolalia Occur?

Explanations of the occurrence of immediate and delayed echolalia in visually impaired children have focused on two general issues: first, why does a child echo an utterance directed to him or her or, in the case of delayed echolalia, memorize and later repeat utterances; and second, what role, if any, does such immediate and delayed repetition play in linguistic development over time. These questions will be

considered for both immediate and delayed forms of echolalia in visually impaired children and other populations.

Immediate Echolalia

Regarding immediate echolalia, Fay's (1973) discussion of echolalia in blind and autistic children remains one of the most insightful and lucid accounts of this phenomenon. Fay rejected explanations of immediate echolalia as reflecting inattentiveness and a lack of motivation (Milstead, 1972). Rather, he suggested that immediate echolalia is most often associated with a severe language comprehension deficit and its occurrence in blind children reflects "a normal human drive to speak coupled with a severe sensory restriction" (p. 486). For autistic children, he speculated that perceptual, rather than sensory disturbances may be responsible. Fay viewed immediate echolalia in both blind and autistic children as at least "quasi-social" in nature in that a child is attempting to keep the interaction going by repeating other's utterances in lieu of generating novel utterances or responding appropriately non-verbally.

In a recent longitudinal study of a blind child (Prizant and Booziotis, in preparation), we discovered a wider variety of uses of immediate echolalia in early stages of language development based on videotaped analyses. Although most repetitions seemed to serve the social interaction function described by Fay, immediate echolalia was also used to express a variety of intentions including affirming others' utterances (answering), requesting action, and for practicing or rehearsing. In a study of autistic echolalic children (Prizant and Duchan, 1981), echolalia was found to serve both communicative (eg., rehearsal, self-regulatory) functions. In both studies production of echolalia was associated frequently with a lack of comprehension as posited by Fay; however, echolalia was also observed to be used with evidence of some degree of comprehension by the visually impaired and autistic subjects. Clinical observations have supported these experimental results.

In summary, immediate echolalia may occur most consistently when a child can't respond appropriately due to a lack of comprehension. However, it may also be the case that immediate repetition is used to serve some communicative functions because a child cannot formulate a response, even if there was some comprehension of the utterance. Intonational changes in repetitions or nonverbal behavior accompanying repetitions often serve to clarify a child's communicative intent. Immediate echolalia has also been found to facilitate linguistic processing and behavioral self-regulation and thus

may serve cognitive functions.

Delayed Echolalia

Wills (1979) examined the use of delayed repetitions in the language of two young blind children whom she followed through their early years of language development. One child was born without eyes and the other child was blind due to retinitis pigmentosa. Wills noted that each child produced novel utterances reflecting early developmental patterns, but each also produced memorized phrases beyond the level of sophistication of their true linguistic abilities. Such delayed repetitions varied as to their appropriateness to the situational context. Wills described the speech of one subject as "often not closely tied to meaning" (p. 110). However, she viewed the use of echolalia and situational phrases as a strategy to participate in social interaction and to communicate intent. She also indicated that echolalia and situational phrases appear to be the children's attempt to master and organize experience in the face of visual impairment.

Two other studies have provided more specific information regarding the use of delayed echolalia by handicapped children. In a videotaped longitudinal study of a young blind girl (Prizant and Booziotis, in preparation) patterns of language structure and use were found to be highly similar to those of Wills' subjects. In a more detailed functional analysis based upon Dore's (1975) categorical system, delayed echolalia was found to be used for the functions of requesting action, labeling, practicing, and commenting. Such utterances were often reproduced in a similar context to which they were originally heard. In a study of delayed echolalia of autistic children (Prizant and Rydell, 1984), fourteen functional categories of delayed echolalia were derived based on videotape analysis. The delayed echoes in each study represented various points along the continua of relevance to the situational context, evidence of comprehension, and evidence of communicative intent.

Pronominal confusion is an additional characteristic of the language of visually impaired children that is cited frequently. Such problems have been described as a misuse of pronouns or pronominal reversal whereby a second or third person pronoun ("you" or "he/she") is used to refer to oneself such as a child requesting a drink by saying "Do you want a drink?" Although explanations of pronominal problems have focused on delays in differentiation of self from other (Santin and Simmons, 1977), clinical observations and literature on other echolalic children (Fay, 1979) suggest

that so-called pronominal reversals can be explained by the use of delayed echolalic patterns. That is, repetition of an utterance directed to a child may include a pronominal form that appears inappropriate when repeated at a later time by the child. It is conceivable that for many occurrences of pronominal misuse, a linguistic explanation may suffice in lieu of a self-concept explanation. Evidence supporting the self-differentiation explanation would be the continued misuse of pronominal forms in utterances that are truly generated or created by a child rather than memorized and repeated at a later time as with delayed echolalia.

In summary, both immediate and delayed echolalia have been found to be used by visually-impaired and autistic children as a device for interacting socially with others, even if at a primitive level. Both forms of echolalia have also been shown to be used to express a variety of communicative intents. It can be argued that such repetitions occur due to a lack of or limited comprehension of the utterances, or to an inability to generate or formulate novel utterances that could serve the same communicative functions. In either case, it appears that visually impaired children use repetition to serve some communicative functions even though they may have limited understanding of such utterances, and limited insight into the internal structure (ie., semantic-syntactic relationships) of the utterances repeated.

More global explanations of the prevalence of echolalic behavior refer back to the second question, what role, if any does such repetition play in linguistic development over time.

The Role of Verbal Repetition in Language Acquisition

To address this question, a more speculative stance must be taken due to a lack of available substantive evidence in the literature. However, in recent years, much discussion on the role of repetition in the language development of normal and other handicapped children has been generated. This literature offers some direction in providing tentative answers for this question. Because this issue has been addressed, albeit infrequently, in the literature on language of visually impaired children, the discussion will begin with this literature and will then shift to relevant literature on language of other children.

Wills (1979) made several references to a possible alternative approach to language acquisition used by her blind subjects. After providing examples of the frequent use of echolalia by one child, she concluded "he was learning his own way, on the basis largely of imitation of words and sentences" (p. 105).

According to Wills, another child "worked through a great deal of what can be termed echolalia and situational phrases in the process of acquiring excellent speech" (p.115). Urwin (1983) speculated that visually impaired children may be demonstrating an "extreme form of a language acquisition strategy" in which "a reliance on phrases acquired wholesale is often coupled with a marked propensity for imitation and/or echolalia" (p. 145).

Our study of language development in a visually impaired subject supports these claims. Over nine months (16 videotaped sessions) we were able to document C's movement from late prelinguistic stages (starting at 1;11) through early multi-word utterances at 2;8). C, whose blindness was caused by RLF, demonstrated functioning at a near age level in all major developmental domains when vision was not a direct factor in the results of the assessments. Therefore, she more closely resembled a normally developing blind child than the subgroup of children with RLF who have been referred to as "autistic-like".

Throughout this period, C's emerging speech and language was characterized by frequent and increasing use of immediate and delayed echolalic forms serving a variety of communicative functions, in addition to forms reflecting early normal developmental patterns (single-word and early multi-word utterances). The specific patterns were as follows: immediate echolalia comprised a high proportion of C's utterances (54%) in the early sessions with a systematic decrease to 5% of her utterances in the latter sessions; delayed repetitions and prefabricated routines (delayed echolalia) increased from 8% to 32% of her total utterances over this period; creative (spontaneously generated) utterances increased from 2% to 31% of her total utterances; and use of non-linguistic vocalizations decreased from 36% to 12% over this period. Although the data has not been calculated, follow-up observations of C for one year beyond the period of the study indicate that immediate echolalia has decreased markedly, while her use of delayed echolalia has increased in frequency and appropriateness to situational contexts. Furthermore, her creative language has increased in proportion to other communicative utterances and has become more sophisticated in form. One important finding in the latter sessions of the study and in follow-up data collection is that the emergence of more spontaneous and creative forms appears to be predicted, to some extent, on the segmentation of forms memorized initially as unanalyzed units or verbal routines. Thus, it appears that many of these utterances which comprised an increasingly large portion of her verbal output provided the "raw material" by which C could initially communicate

intent and eventually gain insight into the structure of language through a process of analysis and segmentation.

This account of language acquisition in our visually impaired subject, and Wills' similar findings in her subjects imply that echolalic visually impaired children may indeed be approaching the language acquisition process in a manner that differs qualitatively from most accepted accounts of normal language acquisition (Brown, 1973). However, recent literature on language acquisition of normal children has delineated variations from so-called invariant sequences in language acquisition (Nelson, 1981; Peters, 1983). Furthermore, alternative strategies in language acquisition have been discussed in reference to other handicapped populations whose echolalic behavior has been compared to that of many visually impaired children (Baltaxe and Simmons, 1977; Prizant, 1983b). We will now turn to this literature for the insights it may offer towards an understanding of language symptomatology of many visually impaired children.

Individual Differences in Language Acquisition

The works of Nelson (1981) and Peters (1983) represent the most clearly articulated arguments for the existence of alternative strategies in language acquisition. These authors discussed two types of strategies or styles that may be observed in children who are acquiring language. An analytic style is one in which children in early stages of language development emphasize single words for primarily referential functions and acquire more complex language by combining elements into multi-word utterances based upon the acquisition and application of productive rules. An analytic style is characterized by flexible and generative utterance production with an understanding of the meaning and internal structure of utterances from early on.

In contrast, a gestalt style is one in which children produce unanalyzed language forms with little appreciation of their internal structure or specific meaning, although the utterances may be used somewhat appropriately in communicative interactions. Both Nelson and Peters emphasize that gestalt and analytic styles are not mutually exclusive and that normal children may show elements of each style to varying degrees. For children who demonstrate frequent use of gestalt forms in language acquisition, movement towards the acquisition of a rule-governed linguistic system depends upon analysis of gestalt patterns for linguistic rule induction. However, use of these patterns plays an important role in a child's participation in social interaction. Table 1 provides a summary of gestalt and analytic styles of language

acquisition.

This literature has been applied to an understanding of language acquisition and use of echolalic autistic children (Prizant, 1983b). In reference to autistic children, a distinction was made among three concepts: gestalt forms, a gestalt style of language acquisition, and a gestalt mode of cognitive processing. Gestalt forms and a gestalt style of language acquisition have been discussed above. A gestalt mode of cognitive processing was defined as "one in which events are remembered or retained with relatively little analysis. Linguistic utterances may or may not be part of such events" (Prizant, 1983b, p. 300). In attempting to explain language acquisition and gestalt styles of autistic children, we posited that their cognitive processing style which can be described as gestalt may be responsible. There is clear evidence in the autism literature that autistic children demonstrate cognitive differences and tend to approach the task of retaining information through rote memorization with relatively little analysis. This occurs for linguistic and non-linguistic information. However, there is a lack of such evidence for visually impaired children ("autistic-like" RLF children may be an exception). The question remains: why is echolalic behavior so prevalent in visually impaired children if a particular and somewhat universal cognitive style cannot be attributed to this heterogeneous population

Visual Impairment and Echolalia

To provide possible answers for the relationship between visual impairment and echolalia, we need to consider, as Landau (1983) suggests, the experience of the visually impaired child as he or she is exposed to linguistic input. In other words, is there something unique to a visually impaired child's experience with language and the events in the environment that may be responsible for the acquisition and use of echolalic or gestalt forms.

As indicated earlier, the use of immediate echolalia may indicate a child's inability to comprehend an utterance directed to him or her. Problems in comprehension conceivably may occur due to a child's inability to experience visually the entities and events to which language refers. In other words, without visual support which is so vital to early language comprehension, the visually impaired child may be missing important cues to meaning. Furthermore, the lack of availability of additional gestural and non-verbal cues that caregivers typically use to direct children's attention to referred-to entities (eg., pointing, visual line of regard)

poses additional constraints. a young visually impaired child may not be able to distinguish easily between language for reference as opposed to language for social interaction. Apparently, many caregivers do develop a language style specific to the needs of their visually impaired child such as synchronizing referential comments to a child's experiencing of a referent through touch, taste, or audition (Urwin, 1983). However, a young visually impaired child may not benefit from incidental verbal expressions of others referring to entities or events unless the child is experiencing them through other than visual modalities. This could also contribute to delayed comprehension possibly resulting in a child's efforts to "keep in touch" through repetition.

Another related explanation has to do with visually impaired children's lack of development of non-verbal strategies for initiating interaction and directing others' attention (Mulford, 1983; Rowland, 1983). The work of Rowland (1983) and Urwin (1983) demonstrated that many blind children may develop verbal or vocal strategies in lieu of non-verbal strategies to serve prelinguistic or linguistic functions which are typically comprised of or built upon accompanying non-verbal behaviors. A strategy of immediate repetition may serve a child by providing an audible attention-getter or attention-indicator in lieu of more conventional means for indicating attention or reciprocity. Furthermore, a repetition strategy is likely to encourage a caregiver to continue to interact, and possibly to provide additional cues for the child in attempting to understand the child's intent. A history of such responses may actually encourage echolalic responding.

As mentioned, the frequent use of delayed echolalia and language rituals has been discussed in reference to a possible alternative developmental course of language acquisition for many visually impaired children (Wills, 1979; Urwin, 1983), as well as for autistic children (Prizant, 1983b) and for some non-handicapped children (Nelson, 1981; Peters, 1983). To explain the frequent use of such gestalt language forms, problems of language processing in addition to characteristics of language input may provide some insights.

Peters (1983) discussed the very difficult task that all children face when attempting to learn about language from the language they are exposed to. A basic problem has to do with segmenting the acoustic stream into basic units (words) that correspond to units of meaning in adult language. Even though caregivers simplify language to young children, they still are exposed frequently to multi-word utterances in which individual words may not be identifiable based on perceptual

features alone. Thus, children's extraction of "language units" may not always correspond to adults' units of language and in some cases a child's extracted unit may be a multi-word utterance or even two utterances in succession. It seems that when such verbal routines are heard regularly in recurring interactions or are produced by others with significant emotive intoning, children are likely to process them as unanalyzed wholes, and may reproduce them later as heard. In some cases, children may be focusing more on intonational characteristics rather than the words in such utterances as evidenced by the often faithful reproduction of intonation co-occurring with poor or unintelligible articulation of segmentals. Memorization of multi-word units is less likely to occur when a child is able to segment language that he or she is exposed to. In addition to auditory perceptual cues which may be used by caregivers (eg., hesitation, pause, contrastive stress), non-verbal and gestural cues are often used which may aid a child in noting how language units may correspond to dynamic events. For example, not only does referential labeling often occur with pointing, but caregivers will often label actions as they are being performed (eg., open, pick up). Without visual cues which provide some additional support for linguistic segmentation, a conceivable consequence could be the acquisition of many unanalyzed forms.

A final explanation would have us examine language direction to children that is used for primarily social, rather than referential purposes. Nelson (1981) indicated that "social control language" tends to be more ritualized and less easily segmentable (eg., "stop it," "give it to me"). Language used in social games and interactive rituals tends to have the same qualities. It is conceivable that caregivers of visually impaired children would be more likely to engage in social language embedded in highly ritualized interactions rather than referential language, especially in early stages of language acquisition. Furthermore, social control language may play a greater role in caregivers' attempts to signal potential hazards to a visually impaired child as he or she attempts to explore the environment. This was clearly the case in our longitudinal study of C (Prizant and Booziotis, in preparation) and similar patterns have been pointed out by others (Urwin, 1983). We also found that the great majority of C's creative utterances were referential while her memorized verbal routines tended to be more social in nature and were comprised of reprimands, utterances from frequently recurring interactive routines, and verbal warnings about hazards in the environment.

Thus, the prevalence of gestalt forms in the language of visually impaired children may be precipitated by a variety of

factors including:

1. Normal variation noted in acquisition styles across all children acquiring language.
2. Delayed development of language comprehension with a relatively more sophisticated rote memory for speech allowing for short-term or long-term retention of utterances associated with situational features.
3. Difficulties in segmenting language due to unavailability of visual cues marking segments of dynamic events, and
4. Characteristics of language input to visually impaired children.

Clearly, some of these factors may put visually impaired children at greater "risk" for development of a gestalt language acquisition style, however, it would be inappropriate and inaccurate to conclude that blindness causes echolalia and a gestalt acquisition style. This statement can be refuted easily by the identification of visually impaired children who do not demonstrate gestalt forms in their speech. Rather, it may be more fruitful to identify which factors are more closely associated with echolalia and a gestalt style in visually impaired children who demonstrate such symptomatology as opposed to those who do not. It is only through such analyses that more definitive links between the experience of visually impaired children and the occurrence of echolalia and gestalt styles of language acquisition can be made.

Conclusions and Further Questions

The intended purpose of this paper was to raise some theoretical issues regarding the often cited symptomatology of echolalia in the language of visually impaired children. By design, the discussion has remained tentative and somewhat general, largely due to the paucity of literature on the subject. Some obvious difficulties with the discussion include the lack of a clear differentiation among subgroups of visually impaired children based on factors such as etiological conditions, cognitive level, extent of visual impairment, the need for additional research support for some of the claims made, and the need for very basic information such as how prevalent gestalt language symptomatology is. Further, reliance on information from normal and other handicapped children may not be the most valid approach for understanding behavior of visually impaired children.

Another question that justifiably may be raised is the

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practical significance of such information for caregivers and professionals who live and work with visually impaired children. Again, clinical experience and literature on other populations must provide a tentative answer. Peters (1983) has suggested that children who demonstrate a gestalt style of acquisition may have greater difficulty "breaking into" language and acquiring the use of a generative, flexible means of communication. This would imply that caregivers and professionals need to develop interactive strategies to help visually impaired children to segment and relate meaning to language they hear. Adults' appropriate language adjustments and experientially based language are obvious priorities and are fundamentals of most programs for visually impaired children.

Another problem often precipitated by the presence of gestalt language forms is that they may lead to an overestimation of a child's true language level resulting in levels of attempted linguistic interaction far too sophisticated for a child. For example, efforts may be undertaken to have a child at a one or two word language level memorize and use grammatically complete forms because he or she may produce gestalt forms of greater apparent linguistic complexity. Assessment of and intervention for children with gestalt language symptomatology needs to be based on a thorough understanding of what at first may seem to be a very confusing linguistic picture [see Prizant 1983a) for further discussion of assessment and intervention issues]. However, greater understanding of such behavior should lead to the development of strategies to help visually impaired children use the language they have acquired most effectively, and to eventually develop a flexible and generative communicative system.

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TABLE 1 - Analytic and Gestalt Modes of Language Acquisition and Use

ANALYTIC MODE	GESTALT MODE
1. Basic units of language are single words.	1. Basic units of language may be words, multiword utterances, phrases, and/or clauses and all possibilities may co-occur as units during one period of time.
2. Early language acquisition involves movement from single words to two and three word utterances encoding early semantic functions and relations.	2. Early language acquisition involves acquisition of multiword units "functioning" as single words. May involve utterances which <u>appear</u> grammatically sophisticated.
3. Further growth in language is achieved through acquisition of grammatical morphemes and functors allowing for noun phrase and verb phrase elaboration.	3. Further growth in language involves analysis and segmentation of unanalyzed chunks into constituent components, and/or movement to an analytic mode.
4. Language is productive and generative from early stages of acquisition with rule induction allowing for increased complexity.	4. Language is relatively inflexible in early stages with limited generativity. Increased complexity is achieved through recombinations of "prefabricated patterns," and further movement to an analytic mode.
5. Language use is generalized to relevant objects and events after short period of situationally specific usage.	5. Language use may remain specific to situational contexts for extended periods.
6. Analytic processors may be more focused on internal structure (semantic and/or grammatical relationships) and referential use of utterances (e.g. Dore's "word babies").	6. Gestalt processors may be more focused on intonation and use of language in the structure of social interaction (e.g. "intonation babies").